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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------------|-----------------------------|
| 10/657,096 | 09/09/2003 | Bamdad Bahar | 0769-4624US5 | 9845 |
| 27123 7590 01/21/2010 MORGAN & FINNEGAN Transition Team C/O Locke Lord Bissell & Liddell 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101 | | | EXAMINER MARTIN, ANGELA J | |
| | | | ART UNIT 1795 | PAPER NUMBER |
| | | | NOTIFICATION DATE 01/21/2010 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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7590 05/18/2009
MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, NY 10154

EXAMINER

MARTIN, ANGELA J

| ART UNIT | PAPER NUMBER |
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1795

| MAIL DATE | DELIVERY MODE |
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05/18/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

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| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/657,096 | Applicant(s) BAHAR ET AL. | |
| | Examiner ANGELA J. MARTIN | Art Unit 1795 | |

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2008.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,6,8-10,12-15,17,18 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,6,8-10,12-15,17,24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is responsive to the Amendment filed on October 21, 2008. The Applicant has canceled claims 18, 20-23, and 26. However, a new rejection is presented for the following reasons of record.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 8, 9, 12-14, 24, 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohashi et al., EP 0503147 A1.

Rejection of claims 1, 3, 8, 9, 12-15, 24, 25 drawn to a polymeric membrane.

Ohashi et al., teach a substantially air impermeable polymeric membrane comprising a polymeric sheet comprising polymer and having a porous structure, the sheet having distributed in the polymer: metal (abstract; p. 2, lines 36-49), and the porous structure is at least partially filled with an ion-exchange particles to provide ionic conductance (p. 10, lines 20-38). It teaches the polymeric sheet has distributed therein a precious metal (p. 7, lines 19-21 and 37-40). It teaches the sheet has platinum (p. 7, lines 40-42). It teaches polymeric sheet has platinum supported on substrate (p. 7, lines 45-53). It teaches the polymeric sheet has metal distributed therein (p. 8, lines 10-12). It

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teaches the polymeric sheet has organic polymer distributed therein (p. 12, lines 45-59).

It teaches the polymeric sheet has a thickness of less than 50 microns (p. 12, lines 45-

49). It teaches the membrane is disposed between two fuel cell electrodes (col. 3, lines

30-43). It teaches the ion-exchange membrane is fluorinated (p. 12, lines 45-59). It

teaches the polymeric sheet has a thickness of 40 microns (p. 12, lines 45-49).

Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 6, 10, 15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohashi et al., EP 0503147 A1, in view of Murphy, U.S. Pat. No. 6,059,943, and in further view of Koslow, U.S. Pat. 5,147,722.

Ohashi et al., teach a polymeric membrane as described above.

Ohashi et al., do not teach the polymeric sheet has distributed therein fumed silica; sheet has distributed therein fumed silica; polymeric sheet is expanded porous PTFE; sheet has thickness of 38 microns and comprising the claim limitations of claim 17.

Murphy et al., teach a substantially air impermeable polymeric membrane comprising a polymeric sheet (col. 10, lines 48-57) comprising polymer and

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having a porous structure (abstract), the sheet having distributed in the polymer: inorganic particulate (col. 8, lines 47-51), metal (col. 8, lines 52-58), organic polymer (col. 8, lines 58-62), or a combination (col. 8, lines 47-62), and the porous structure is at least partially filled with an ion-exchange particles to provide ionic conductance (claim 1). It teaches the sheet has titania (claim 4). Murphy et al., do not teach the polymeric sheet has silica or fumed silica distributed therein.

Koslow teaches a polymeric membrane comprising ion-exchange resin (col. 25, lines 15-35) wherein the polymeric sheet has silica or fumed silica distributed therein (col. 16, lines 65-67 and col. 17, lines 1-7).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Koslow into the teachings of Ohashi et al., because Koslow teaches that the addition of fumed silica can alter the stiffness of the membrane and improve the strength of the structure. With respect to the claim limitations in claim 17, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose an optimum thickness and porosity, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

5. Applicant's arguments with respect to above claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is (571)272-1288. The examiner can normally be reached on Monday-Friday from 10:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJM

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/Angela J. Martin/
Examiner, Art Unit 1795